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WILLIAM CRAWFORD GORGAS

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MAJOR GENERAL WILLIAM CRAWFORD GORGAS was an international character and his professional career, medical and military, included accomplishments of supreme importance, involving responsibilities that brought to him enduring fame.

In this brief sketch of his life, it is the purpose to bring out only a few of the salient points of his remarkable career which will serve to illustrate his character, and particularly to bring to light a few unknown facts about his labors as Surgeon General of the United States Army during the World War.

I. BIOGRAPHY

William Crawford Gorgas was born in Mobile, Alabama, on October 3, 1854. He was the son of General Josiah Gorgas, the chief of ordnance of the Southern Confederacy during the Civil War, and later the president of the University of the South, at Sewanee, Tennessee. Gorgas was graduated from the University of the South with the degree of A.B. in 1875, and from Bellevue Hospital Medical College with the degree of M.D. in 1879. He entered the Medical Department of the United States Army on June 16, 1880, as first lieutenant, was advanced to captain in 1885, and to major in 1898.

In 1880, yellow fever was prevalent in Brownsville, Texas, in violent epidemic form. Conditions were bad beyond the power of words to portray to those who have no recollection of conditions in a yellow fever stricken city prior to 1880. The government as well as the people at large had been appealed to.

General Gorgas, with the rank of lieutenant, was sent to Fort Brown, near Brownsville, to assist in the medical care of the civilian population. There he first met Miss Doughty, later Mrs. Gorgas, who then was seriously ill of yellow fever, and there he contracted the disease also.

Later, Gorgas was in active service in Florida, in the West, in Dakota, and in the old Indian Territory.

He accompanied the military expedition against Santiago in 1898. Fate, possibly with a purpose, visited his system with yellow fever in early life, thereby making him immune to the disease. Because of his practical knowledge of yellow fever, he was appointed chief sanitary officer of Havana, which post he occupied from 1898 to 1902.

It was in 1900 that Gorgas was in close contact with the investigation that was being conducted in Havana by the Walter Reed Board, the purpose of which was to determine the course of yellow fever. The memorable discovery

made by this board revealed the cause thereof; but it was Gorgas who applied these principles and effected the eradication of yellow fever from Havana.

In 1904, Gorgas was appointed chief sanitary officer of the Panama Canal Zone, and in 1907 he was made a member of the Isthmian Canal Commission. In recognition of his work in Havana, his rank was increased to that of colonel by a special act of Congress in 1903, and he became assistant surgeon general of the United States Army. In 1915, Gorgas and his associates on the Isthmian Canal Commission received a vote of thanks from Congress for distinguished service rendered in connection with the construction of the Panama Canal.

In 1913, General Gorgas went to Rhodesia, South Africa, at the invitation of the Chamber of Mines, Johannesburg, to advise as to the best means of preventing pneumonia and malaria among the native mine workers. He was appointed surgeon general of the United States Army, with the rank of brigadier general, on January 16, 1914, and was given the rank of major general in 1915. He served with great distinction as surgeon general during the trying period of our participation in the World War, until his retirement on account of age on October 4, 1918.

He never lost his interest in world sanitation. While he was stationed in the Canal Zone, he visited Guayaquil, Ecuador, and mapped out a plan for the control of yellow fever in that disease-ridden district. In 1916 he was made chief of the special Yellow Fever Commission of the Rockefeller Foundation, and spent several months in South America making surveys and laying plans for the eradication of yellow fever from localities in which it still prevailed.

After his retirement as surgeon general, he immediately accepted the assignment to direct the yellow fever work which had been undertaken by the International Health Board of the Rockefeller Foundation. On May 7, 1920, he sailed for England, en route to West Africa, where he was to investigate the yellow fever situation. He fell ill in London on May 30, 1920, and died on July 4, 1920.

II. CHIEF SANITARY OFFICER OF HAVANA

1. *Preliminary Investigation of Course of Yellow Fever*

Many names have become historical in connection with the preliminary work which was pursued to demonstrate the course and means of transmission of yellow fever. Dr. Walter Reed, who was at the head of the sanitary board that finally succeeded in working out in detail and demonstrating the course of this disease, said of one of these early workers: "To Dr. Carlos Finlay, of Havana, must be given, however, full credit for the theory of the propagation of yellow fever by means of the mosquito, which he proposed in a paper before the Royal Academy in that city at its session on the 14th day of August, 1881."

It was not until 1899 that the then Surgeon General Sternberg, of the United States Army, who was one of the leading bacteriologists of the profession and also one of the leading known authorities on yellow fever, induced the secretary

of war to appoint a board of army medical officers to investigate the entire subject of yellow fever. This board consisted of Doctors Reed, Lazear, Carroll, and Agramonte, and proceeded with its investigations in Havana, where General Gorgas was stationed at the time as chief sanitary officer. Necessarily, Gorgas had much contact with this board and with its individual members. The Sanitary Department of Havana had a commission of medical men to whom all cases of yellow fever were referred for diagnosis. This commission was comprised of General Gorgas, Dr. Carlos Finlay, Dr. Antonio Albertini, and Dr. Juan Guiteras, and co-operated closely with the Walter Reed Board. This board, of which General Gorgas speaks as "this now famous and immortal board," completed its comprehensive investigations and presented its findings or conclusions early in 1901.

2. Findings of Walter Reed Board

Gorgas looked upon the discovery of the Walter Reed Board with the eye of an appraiser. He had watched the process of its development, and by his knowledge of the subject, he judged of its value and was convinced that the experiments of the board left no doubt of the reliability of its claims.

Yellow fever was caused by a germ that was transmitted to men by the bite of a female *stegomyia* mosquito. This mosquito must first bite a yellow fever patient after the third day of the onset of the disease. Within the period of from twelve to twenty days after biting the yellow fever patient, the mosquito was able to transmit the disease to a non-immune individual. This was the theory furnished by the scientists, which Gorgas pondered over and which made him realize that to him had come the opportunity to utilize it in controlling or eradicating yellow fever.

3. Eradication of Yellow Fever

With these facts before him, he plainly saw that yellow fever could be eradicated if no yellow fever victims were bitten by a *stegomyia* mosquito after the third day of the disease. It was likewise obvious that yellow fever could not develop if a female *stegomyia* mosquito that had bitten a yellow fever patient did not bite a non-immune individual within the period of from twelve to twenty days afterward. Therefore, if a patient having yellow fever were isolated to the extent that no mosquito could bite him, there could be no transmission of the disease from that patient.

His direct working mind had this material as a basis. He foresaw that he must eliminate all traditional, irrelevant notions about the development of yellow fever, and concentrate on this new theory that he was convinced was true. First, then, he must, so far as possible, destroy the *stegomyia* mosquito; second, he must screen all victims of yellow fever so as to prevent them from being bitten by mosquitoes that would transmit the disease; and, third, he must screen all non-immune individuals against the bite of the *stegomyia* mosquito. How simple!

But he had the traditions of ages to combat, and he had to deal with thousands of people of a great city, few of whom knew anything of science, and to whom it would be difficult to explain his problem. Then, too, there was the medical profession itself, which is too often too slow in adopting new theories which are established by scientists. He had to re-educate society and change its attitude toward the control of disease, supplanting the traditional teachings of years, that the disease was caused by filth, miasma, night air, and contagion through personal contact, with the new theory of mosquito propagation. He had before him the problem of discovering a method of destroying the mosquito where every condition existed which was most favorable to its development. He had to supervise the care of sick individuals who must be served by trained assistants who believed in and understood the work in which they were engaged. Those people whose houses had to be ridded of mosquitoes had, necessarily, to be put to great inconvenience and expense. A government had to be convinced that past methods, in the pursuit of which it had spent vast sums of money, were all wrong, and that it must appropriate sufficient funds to make possible a trial of the new theory.

But his enthusiasm, his staunch belief in his proposed methods, his immediate initiative, and his great industry overcame all obstacles, and between the time of the announcement of the plan on February 1, 1901, and September 15, 1901, a period of less than eight months, he eradicated yellow fever from Havana, where it had continuously existed for over 150 years.

4. Malaria Control

The plan followed to rid Havana of yellow fever, with its resultant destruction of the stegomyia mosquito, also destroyed the anopheline mosquitoes which propagate malaria. The result of this work was to reduce malaria in a most marked degree. Before 1901, Havana, dating back to 1872, had an average yearly death rate from this disease of over 300; in 1898 it rose to 1,900. Since 1901, after the systematic destruction of mosquitoes inaugurated by Gorgas, malaria steadily decreased until in 1912 there were only four deaths. This means practically the extinction of malaria in Havana, as these four deaths could be attributed to patients brought from infected districts outside of the city.

General Gorgas at all times was the most modest of men, and never for one moment did he fail to minimize his own work in comparison with that of his contemporaries or predecessors. This is shown in the following paragraph in which he summarized the accomplishment in Havana:

“There has been a great deal of discussion as to who deserves the credit for this great discovery. Undoubtedly Reed and his board brought all the threads together and actually made the great discovery; but Finlay, Sternberg, Carter, and others started the spinning of many of these threads. Like all great discoveries everywhere, it was gradually led up to by many workers.”¹

¹ Sanitation in Panama.

III. CHIEF SANITARY OFFICER OF PANAMA

1. *Yellow Fever Eradication*

Although it was urged that a medical man should be made a member of the Isthmian Canal Commission, as sanitation at Panama, as demonstrated by the experience of the French, was fully as important as engineering, the commission, under the Spooner Act, consisted of seven members, five of whom were engineers, and no physicians.

During the latter part of March, 1904, General Gorgas, with three associates appointed at his request — namely John W. Ross, U. S. N., Major Louis A. LeGarde, surgeon, U. S. A., and Major Cassius E. Gillette, Corps of Engineers, U. S. A.—was ordered to accompany the Panama Commission as its sanitary advisor for the purpose of drawing up a scheme of sanitation whereby the force might be protected during the construction of the Canal. “After much study and careful consideration,” he said, “we submitted a report which embodied the organization which we thought necessary to accomplish the desired ends. The report gave detailed estimate of the cost of this organization.”¹

In April, 1904, General Gorgas was ordered to report to the commission as the chief sanitary officer for the Isthmus. He was authorized to employ a certain number of men for the preliminary work, and given an appropriation of \$50,000. On May 4, the French company formally transferred the Canal property to the United States, and early in June the work began.

Lack of proper organization was one of the difficulties which had to be met with at the beginning. The supply departments in the United States were slow in furnishing supplies, and few requisitions were filled. This was due to the attempt of the first commission to manage from Washington. Gorgas, however, had taken the precaution to bring with him his \$50,000 worth of supplies and his picked personnel, which enabled him to start without undue embarrassment, in direct contrast to the showing of the Engineering Department or the Quartermaster's Department for the same period.

From the careful study made by Gorgas, he realized that the subject of yellow fever was by far the most important phase of sanitation with which he had to deal. The enormous death rate from this disease that the French had suffered would make it very difficult for the United States to supply officials and laborers for the digging of the Canal. The cost for labor would become prohibitive, and the appalling death rate would make Congress hesitate to take the responsibility of continuing the work. The best statistics available showed that the French lost yearly by death from yellow fever about one-third of their entire force. At this rate, with the number of men employed, the United States would lose by death from this dread disease about thirty-five hundred men yearly.

The sanitary problem in Panama was many times greater than that in Havana; the commission in control of the construction of the Canal was located

¹ Sanitation in Panama.

in Washington, and the sole point of contact with this supreme authority was through the then resident governor of the Canal Zone, General George Davis. The commission as a whole at the beginning was prone to underestimate the magnitude of the sanitary problems as well as the cost, and was inclined to look upon the extensive plans of General Gorgas as visionary.

However, Gorgas, with his entire force and financial resources, began his work in an effort to destroy the yellow fever mosquito; to repeat, but with greater intensity, the work that had been so effective in Havana.

One problem that was not present in Havana but that had to be met with in Panama was the care of the enormous influx of unacclimated and non-immune whites who were being brought in as officials and employes of the commission.

"Our force," says Gorgas, "of unacclimated whites liable to yellow fever rapidly increased during the winter of 1904 and the spring of 1905. Yellow fever increased with still greater rapidity. The authorities became more and more alarmed. In January, 1905, the first commission was asked to resign. . . .

"Even after this change, the sanitary department was in no better condition than it had been under the old commission. The chief sanitary officer was still subordinate to the governor of the Canal, and had no means of access to the chairman except through the governor. Such sanitary measures were carried through, the importance of which the chief sanitary officer could impress upon the governor. Those the importance of which the governor could not see, were with great difficulty carried into effect."¹

This condition of affairs must have been most harrowing to the sanitary authorities who had no doubt of the ultimate success of their plan, based on their experience in Havana, if they were only allowed, unhampered, to carry out their program. The full support of the commission was difficult to obtain.

Conditions with regard to yellow fever, because of the difficulties of carrying out every detail of their plan, "kept going from bad to worse," says Gorgas, "during the first six months of 1905. In April, 1905, several of the higher officials died of yellow fever. This caused widespread panic among the whites, and very great demoralization to the work itself."¹

In June, 1905, two members of the executive committee of the commission united in a recommendation to the secretary of war that the chief sanitary officer and Dr. Carter, and those who believed with them in the mosquito theory, should be relieved, and men with more practical views appointed in their stead.

Here is where Gorgas demonstrated that he had the courage of his convictions. It would have been an easy matter, and a course sanctioned by general usage in political affairs, for General Gorgas, in these months of obstruction through the ignorance of superior officials, to have compromised and resorted to make-shifts to curry favor with his superior in rank. By these means he might have gained temporary advantage. But Gorgas was too honest to pursue such a course, and it would have been incompatible with his direct way of doing things.

¹Sanitation in Panama.

"Fortunately, the then President of the United States had been in office when the work at Havana had been done by us," says Gorgas. "He told the commission that the mosquito theory had been established beyond peradventure; that its application had been entirely successful at Havana where yellow fever had been more firmly established and established for a longer time than in Panama. He declined to sanction the change recommended, and directed that every possible support and assistance be extended to the sanitary officials."¹

About this time Mr. John F. Stevens was appointed chief engineer of the commission and he recommended that the sanitary department should be made an independent bureau and report directly to himself. This enabled the chief sanitary officer, General Gorgas, to make known his needs directly to the highest authority, and there he was accorded loyal support.

"This," remarks Gorgas, "was the high-water mark of sanitary efficiency on the Isthmus, and more sanitation was done at this time than during any other period of the construction of the Canal."¹ With full authority granted to Gorgas and his aids, a repetition of the remarkable accomplishments in Havana came to Panama.

"In looking back over our ten years of work . . .," says Gorgas, in a burst of justifiable exuberance, "1905 and 1906 seem the halcyon days for the sanitary department. . . . By the fall of 1907, about all of our sanitary work had been completed. Our fight against disease in Panama had been won, and from that time on our attention was given to holding what had been accomplished."¹

*"One more case of yellow fever occurred in Colon during May; but since May, 1906, now more than eight years, not a case of yellow fever has originated on the Isthmus."*¹

2. Malaria Control

After the fall of 1905, when yellow fever had been conquered, attention was given to the elimination of the anopheline mosquito, which is the means of transmission of malaria. The following is the result of the campaign against malaria: In 1906, 821 of every thousand patients admitted to the Canal Zone hospitals had malaria. In 1907, this number in each one thousand was reduced to 426 malaria cases; in 1907, to 282; in 1909, to 215; in 1910, to 187; in 1911, to 184; in 1912, to 110; and in 1913, to the small number of 76.

Inasmuch as a victim of malaria seldom dies of the malady, but he is capable of supplying its germ to any female anopheline mosquito within three years of first infection, the abolition of malaria was practically impossible with seventy-five per cent of the population of the Canal Zone carrying the germs of the disease in their systems.

3. Bubonic Plague

In 1905, a case of bubonic plague appeared in Panama. As this disease is transferred from the rat to the human being by the rat flea, a systematic campaign to rid the Canal Zone of rats was instituted and successfully carried out.

¹ Sanitation in Panama.

4. *Results of Sanitation in Panama*

In summing up the results of sanitation in Panama, General Gorgas says:

"We have no means of telling what was the sick rate with the French . . . but we know it was very large. [According to General Gorgas' figures, a conservative estimate of the French rate of sickness throughout their operations would be 333 per thousand, or one-third of their force.] Our force during the ten years of construction averaged 39,000 men. If we had had a similar constant sick rate, we should have had 13,000 sick employes in our hospitals every day during the ten years of construction. As it was, we had only 23 per thousand sick each day, a total of 900 for the whole force; that is, we had about 12,000 fewer men sick every day than had the French. . . .

"We had an average of 900 men sick every day. For the year this would give us 328,500 days of sickness, and for the ten years, 3,285,000 days of sickness. If our rate had been 300 per thousand, a very moderate figure compared with what it was under the French, we should have had 11,700 sick every day, and for the year 4,270,500, and for the ten years, 42,705,000, or an increase of 39,420,000 days of sickness for the whole period. . . .

"It cost about one dollar a day to care for a sick man on the Isthmus. The commission cared for the sick free of charge. Every day, therefore, of sickness prevented on the Isthmus lessened the expense which the commission had to bear by one dollar. The commission was therefore saved by this sanitary work, for ten years, \$39,420,000. . . .

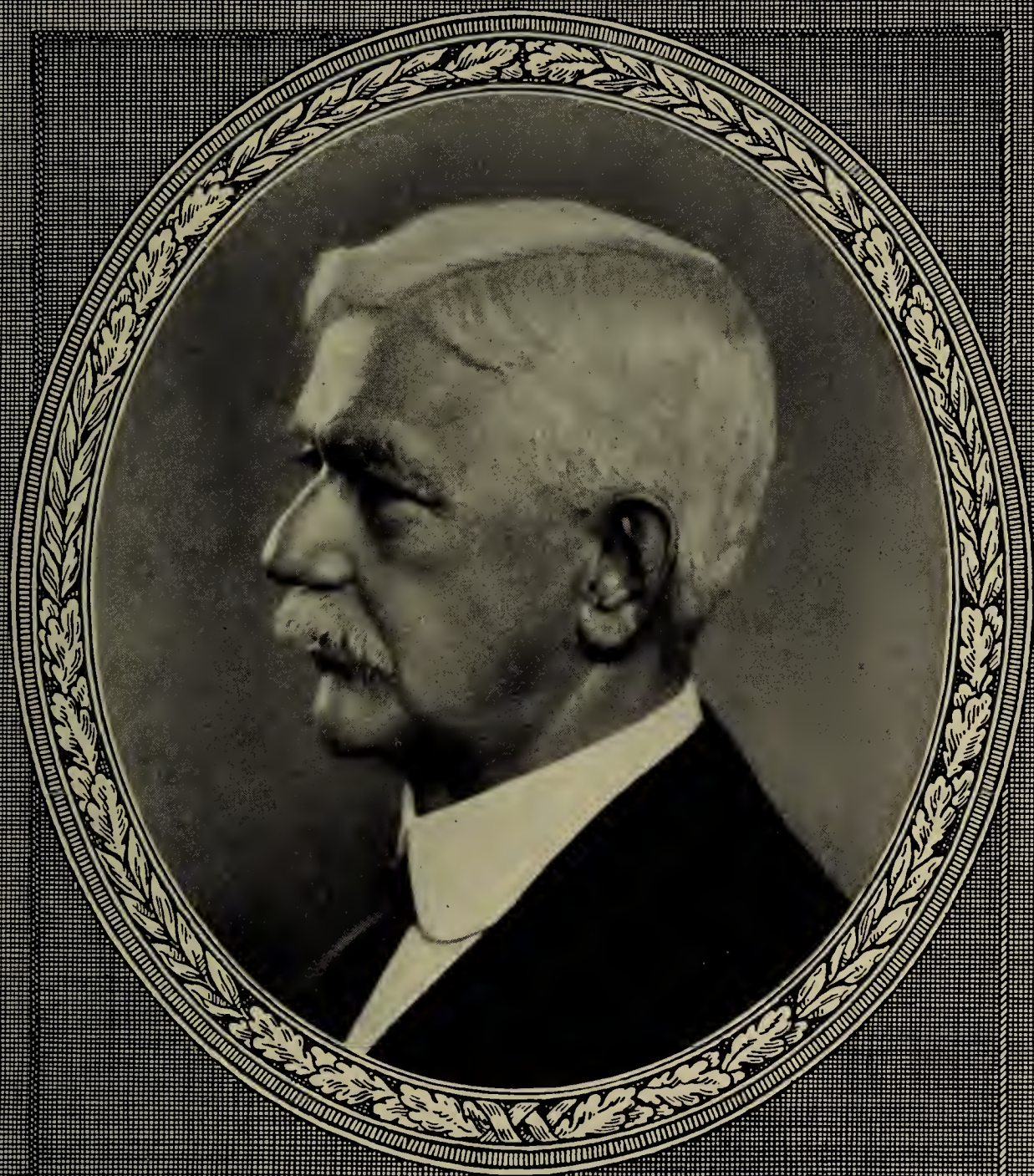
"During the ten years of construction, we lost by death 17 out of every thousand of our employes each year. That is, from the whole force of 39,000 men, 663 died each year, and for the whole construction period we lost 6,630 men. If sanitary conditions had remained as they had been previous to 1904, and we had lost as did the French, two hundred of our employes out of each thousand on the work, we should have lost 7,800 men each year, and 78,000 during the whole construction period."¹ Thus the Gorgas' sanitary program saved the difference between the 78,000 estimate of deaths under the old régime, and the actual 6,630 deaths under the new, or a total of 71,370.

5. *Economic Value of Sanitation in Panama*

General Gorgas estimates that the saving to the United States government due to the work of sanitation was a total of \$80,000,000, taking into consideration the loss that would have occurred on account of poor morale, and the excessive wages that would have been demanded under less favorable health conditions, in addition to the hospital days saved.

Then, too, one must take into consideration the fact that our great force of men in Panama, because of the sanitary arrangements, was privileged to live in a tropical paradise, where the health conditions were as safe as in any habitable place on earth. "The Canal Zone," says General Gorgas, "for the past four hundred years, ever since it has been known to white man, has been one of the

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most unhealthy spots in all the tropical world. And now it is one of the garden spots of our civilized world, with a health condition excelled by no land."¹

IV. GORGAS, THE SOLDIER

1. *Reorganization of Medical Corps and Medical Reserve Corps of the U. S. Army in 1916*

Gorgas, the sanitarian, had reached the acme of his fame; and at the honorable age of sixty-three, as surgeon general, he was at the head of the peace-time Medical Corps of the United States Army. In 1916, although the President of the United States and a large majority of her people were definitely opposed to entering the European struggle, it was apparent that our country would be drawn into the greatest war of history. Therefore, General Gorgas, while hoping for an early peace, began to urge the reorganization of his corps.

During the spring and summer of 1916 he appeared almost daily before the Military Affairs committees of the Senate and House, and personally advised the legislators in their preparation of the army bill. It was during this time that the courtesies of the floor of the Senate Chamber were extended to him as the authorized head of the Medical Corps of the United States Army.

In the spring of the same year he was anxious to expand the Medical Reserve Corps, and as he desired to secure the best men obtainable, he consulted those who were in authority in the leading medical organizations of the country and asked them to aid him in making his selections. There could have been no safer way, and the results immediately justified his judgment. Throughout the war it was his policy to utilize every available means to add to the number and efficiency of his corps. He repeatedly said: "I want all the help I can get."

General Gorgas was quick to recognize the importance of the specialist in the organization of his corps, as it enabled each man to fill the particular place for which he had been trained and in which he could render the highest service.

2. *Increased Rank for Medical Officers*

It became apparent early in 1917, shortly after our country entered the war, that a provision should be instituted that would make it possible for our Medical Reserve Officers to receive rank higher than that of major. General Gorgas was always very much interested in all subjects that had to do with medical matters, and he was keenly alive to the necessity for this increased rank; and he never failed to use his influence and initiative to make his desires known. He realized that this was a war that would require the services of the very best of the medical profession, and to its organization would be attracted our most eminent and influential practitioners of medicine, surgery, and dentistry. The armies of Europe, including our allies, England, France, and Italy, during three years of actual warfare, had seen the necessity in the organization of their respective medical reserve corps of giving advanced rank to their medical

¹ Sanitation in Panama.

officers, many of whom were then serving as lieutenant colonels, colonels, brigadier generals, and even major generals. In our overseas armies, our medical officers would soon be associated with these medical officers of European nations. Immediately they would find themselves at a distinct disadvantage in their association with them, and they would be subjected to humiliation because of their lower rank, although they would be performing the same duties and assuming the same responsibilities.

The executive committee of the Council of National Defense presented the subject to Secretary of War Baker, and through him the committee was invited to present its case to the War College. General Gorgas, Dr. Charles H. Mayo, Dr. William H. Welch, Dr. Victor C. Vaughan, and the writer made up the committee on the occasion of its first appearance before the War College. A strong argument was presented by General Gorgas in favor of increased rank for medical officers, and a general discussion followed in which all members of the committee who were present participated, as well as the group of officers representing the War College. While our requests were not definitely turned down in these early discussions, it soon became apparent to us that no move was being made to change the law or regulations, and finally we were convinced that the initiative along this line would have to come from us.

Senator Owen was selected to look after our interests in the Senate, and we co-operated with him in formulating a bill. Because of the lack of enthusiasm in our behalf on the part of the secretary of war and the general staff, the whole subject was presented to President Wilson, with a plea for his support. To the great satisfaction of the executive committee of the General Medical Board, the following reply was received from the President:

March 5, 1918

My dear Doctor Martin:

I read very carefully your memorandum of February twenty-seventh about the rank accorded members of the Medical Corps of the Army and have taken pleasure in writing letters to the chairmen of the Military Committees of the House and Senate, expressing the hope that the bill and resolution may be passed.

Cordially and sincerely yours,
(Signed) Woodrow Wilson.

Dr. Franklin Martin
Advisory Commission
Council of National Defense
Washington, D. C.

With the introduction of Senator Owen's bill, a prolonged series of hearings on the subject were held before the Senate Committee on Military Affairs. Later a bill was introduced in the House by Representative Dyer, which modified in some unessential details the Senate bill. This brought the matter before the Committee on Military Affairs of the House. After many hearings in these committees, almost all of which were attended by General Gorgas and the writer, and at various times other members of the executive committee, including Dr. William J. Mayo, Dr. Victor C. Vaughan, Dr. Charles H. Mayo, Dr. William H. Welch, Dr. Frank F. Simpson, and others, it was deemed wise to combine the

Senate and House bills into one uniform bill. This resulted in a meeting in my office as the medical representative of the Advisory Commission of the Council of National Defense, where the Owen-Dyer bill was formulated. General Gorgas, Senator Owen, Representative Dyer, and Brigadier General (then Colonel) Noble and the writer were present at this meeting. General Gorgas practically dictated the changes that were agreed upon, and the bill was written. The following day the Owen-Dyer bill was presented simultaneously in both houses of Congress, in the Senate by Senator Owen, and in the House by Representative Dyer. After many vicissitudes and alterations, it was attached as a rider to the general appropriations bill.

Before the Owen-Dyer bill was dignified by becoming a rider to the general appropriations bill, a serious propaganda for and against the bill was waged for a considerable period of time. Many hearings were held before the Military Affairs committees, and General Gorgas was at the forefront in his advocacy of our bill. Members of the different medical societies were requested to exert their influence with their Senators and Representatives, urging them, by resolutions and by personal letters, to pass the Owen-Dyer bill. During this time of intense opposition, General Gorgas and I were called before Assistant Secretary of War Crowell and Chief of Staff March for pernicious activity in behalf of the Owen-Dyer bill. The assistant secretary proceeded to quiz Surgeon General Gorgas regarding his activities in advocating legislation concerned with the corps, the uniform of which he wore and of which he was the head. It was even intimated that he had in public addresses urged men to write to their Congressmen and Senators, instructing them to vote in a certain way. When General Gorgas was asked directly if he had committed these indiscretions, he answered that he could not remember that he had been guilty of the particular act of which he was accused. "But," he said, in his direct and outspoken manner, "you know, Mr. Secretary, I am in favor of the passage of the Owen-Dyer bill, and I would consider myself disloyal to my corps if I did not do everything in my power to bring about its passage."

The assistant secretary was disarmed by this frank statement, and evidently forgetting to make the point that it was contrary to regulations for an officer to interest himself in legislation, he began to argue the merits of the bill for increased rank. He asked General Gorgas if he was not inconsistent in urging higher rank for members of his reserve corps when there were other reserve corps for which such increased rank would be equally desirable. "Not at all," the General replied. "I have no definite knowledge of the requirements of the other corps, and I should never think of interfering in their organization. I do, however, know the needs of my own corps, and I feel that I must favor such a change in the law as will meet them."

General Gorgas was then asked to explain just how the passage of this law would benefit his corps. In his quiet, convincing manner he responded by drawing a mental picture of his vast corps, with its service in the camps of this

country; its service overseas where the distinguished members of our medical profession, serving as majors, were working side by side with their distinguished confrères of Europe who, while performing the same duties, were colonels, brigadier generals, and major generals, thus outranking our own men and bringing many unnecessary humiliations to bear upon them. The story was so convincing, so unanswerable, and so pleadingly told (the names of well-known civilian doctors serving as illustrations), that the General, obviously, had won his case.

Finally, the general appropriations bill, of which the Owen-Dyer bill had become a rider, was passed by the House and the Senate, and was in the hands of the conference committee, appointed by the two Houses of Congress, for agreement. The conference committee was to report that day, and at a given hour in the afternoon the completed bill was to be ratified by both Houses.

At this time (Secretary of War Baker having returned from overseas) a desperate, vicious attack was inaugurated against the bill by the subtle propagandists. A conference between the secretary of war and Senator Owen much disturbed the Senator, who was one of the authors of the bill. It appeared that there was much opposition, especially to the creating of the higher ranks of brigadier general and major general. The argument was urged that if the opposition of the secretary of war, and of the War College, represented by the chief of staff, should induce the President to veto the bill because of this rider, the whole general appropriations bill would fail of passage. An appeal to the patriotism of those supporting the Owen-Dyer bill, asking them to abandon the essential features thereof, was adopted as a ruse of the opposition in an effort to gain its point.

At nine o'clock in the morning, after an interview with Senator Owen and a conference with the official advisors of his own department, General Gorgas came to the writer's office, much depressed. The conference committee was to report early in the afternoon and the two branches of Congress were to take a final vote on the ratification of the bill. They had urged that he should consent to abandon the superior rank and be satisfied to retain the lieutenant colonels and colonels, or otherwise he would lose all. Before deciding the matter, he wanted to obtain my reaction and advice, inasmuch as we had always been in absolute accord on the subject and had consulted each other on all changes of policy. He recited the whole story and, instead of asking my advice as to what his attitude toward a compromise should be, he asked me what I would do under the circumstances. I was deeply concerned at the turn of affairs, and appreciative of the sense of responsibility under which the General was laboring. He had been urged to compromise further. What should he do? He had fought so hard and so long for his precious bill, and by holding out he might lose all, whereas by yielding he might spare something. But he had asked me a question: What would I do? Finally I said: "General, I would not yield another inch." He rose from his chair, rushed over to me, grasped my hand, and said: "I hoped you would say that. In my own mind I had already decided on that course."

We laughed at each other and went over the whole situation. The opposition had told the General that the President might veto the bill because of the supposed attitude of opposition to the Owen-Dyer rider in the War Department. Had we not received a letter from the President months before in which he stated that he favored our bill? Would the President veto it without consulting with us and telling us why? Why not tell him of the rumors, remind him of his promise, and ask him, if he was still of the same opinion, to make his views known to the proper authorities? I communicated with the White House and explained the situation. At noon, while we were holding an executive committee meeting in my office in the Council of National Defense (with General Gorgas, the surgeon general of the Navy, the surgeon general of the Public Health Service, Dr. Victor C. Vaughan, and Dr. William H. Welch present), Admiral Grayson telephoned to me and said that the President had communicated to the proper authorities his wishes as previously written to me. I assumed that our bill would pass unchanged that afternoon, and that the President would sign it.

General Gorgas was not very demonstrative, but in those trying days of the war I do not believe I ever saw him so happy as he was later that day. The Owen-Dyer bill was passed by Congress that afternoon as a rider to the general appropriations bill, and was signed by the President.

V. CONCLUSION

In Gorgas one finds the same outstanding qualities which are the embodiment of the mind and character of every genius. He visualized a conspicuous object that required accomplishment. With an open and untrammelled mind, which could disregard tradition, he utilized the essential materials at hand and conceived a simple formula which enabled him to accomplish his task. With his clear vision and this formula, the direct mind of the genius ignoring all irrelevancies, he proceeded to execute his plans. Then followed the stupendous task of achievement, which required the exercise of patience, tolerance, untiring perseverance that could circumvent unwise opposition, and, finally, unconquerable industry.

Gorgas possessed not only the attributes of a genius, but as well the admirable traits of character that made him a normal man in the midst of conventional surroundings. Gorgas was princely, with the simplicity of a child. He loved his fellowmen to the extent that he saw good in all; and by his tolerant sympathy, he drew men to him who, by the thousands, claimed him as friend. His great work he shared with able contemporaries who were selected by him as aids, and with almost unerring judgment. His pride of proprietorship in his work, if he possessed it at all, was obscured by his desire to accomplish a useful thing, and he utilized every legitimate factor that would bring success to his enterprise. He commanded his great armies of aids, in his civil work as well as in his war work, not by autocratic methods, but by power of persuasion, and by the example of his own industry. In his official life, in his social life, and in his family life, he was the true friend of mankind, the courteous gentleman, and always the cavalier.

